WHAT IS CLAIMED IS:

1. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

battery capacity detection means for detecting a remaining capacity of the battery;

radio signal transmission means for transmitting a radio signal at one of a first output level and a second output level lower than the first output level; and

control means for switching the output level of the radio signal transmitted by the radio signal transmission means from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detection means becomes lower than a predetermined value.

2. The electronic apparatus according to claim 1, further comprising:

setting means for controlling whether or not the output level is switched based on the remaining capacity of the battery.

3. The electronic apparatus according to claim 2, wherein said control means includes means for outputting a warning sound when the control means detects that the remaining capacity of the battery becomes lower than the predetermined value in a state where the setting means is so set that the output level

is not switched in accordance with the remaining capacity of the battery.

4. The electronic apparatus according to claim 1, wherein said radio signal transmission means performs radio communications conformable to Bluetooth(R) standards.

5. The electronic apparatus according to claim 4, wherein said radio signal transmission means uses class 2 when the radio signal is output at the first output level, and uses class 3 when the radio signal is output at the second output level.

6. The electronic apparatus according to claim 1, wherein said electronic apparatus further comprises a headset.

7. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

battery capacity detection means for detecting a remaining capacity of the battery;

audio data reproduction means for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality; and

control means for switching the sound quality of the audio data reproduced by the audio data reproduction means from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detection

means becomes lower than a predetermined value.

8. The electronic apparatus according to claim 7, further comprising:

setting means for controlling whether or not the sound quality is switched based on the remaining capacity of the battery.

9. The electronic apparatus according to claim 8, wherein said control means includes means for outputting a warning sound when the control means detects that the remaining capacity of the battery becomes lower than the predetermined value in a state where the setting means is so set that the sound quality is not switched in accordance with the remaining capacity of the battery.

10. The electronic apparatus according to claim 7, wherein said audio data reproduction means uses a 5.1-channel mode when the audio data is reproduced with the first sound quality, and uses a 2-channel mode when the audio data is reproduced with the second sound quality.

11. The electronic apparatus according to claim 7, wherein said electronic apparatus further comprises a headset.

12. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

battery capacity detection means for detecting a remaining capacity of the battery;

radio signal transmission means for transmitting a radio signal at one of a first output level and a second output level lower than the first output level;

audio data reproduction means for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality;

first control means for switching the output level of the radio signal transmitted by the radio signal transmission means from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detection means becomes lower than a predetermined value;

second control means for switching the sound quality of the audio data reproduced by the audio data reproduction means from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detection means becomes lower than a predetermined value; and

setting means for independently selecting at least one of the first and second control means.

13. An electronic apparatus powered by a battery and configured to perform radio communications with another apparatus, comprising:

a battery capacity detector for detecting a remaining capacity of the battery;

a radio signal transmitter for transmitting

a radio signal at one of a first output level and a second output level lower than the first output level; and

a control device for switching the output level of the radio signal transmitter from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detector becomes lower than a predetermined value.

14. The electronic apparatus according to claim 13, further comprising:

a setting device for controlling whether or not the output level is switched based on the remaining capacity of the battery.

15. The electronic apparatus according to claim 14, wherein said control device includes an warning sound generator for generating a warning sound when the control device detects that the remaining capacity of the battery becomes lower than the predetermined value in a state where the setting device is so set that the output level is not switched in accordance with the remaining capacity of the battery.

16. The electronic apparatus according to claim 13, wherein said radio signal transmitter performs radio communications conformable to Bluetooth(R) standards.

17. The electronic apparatus according to claim 16, wherein said radio signal transmitter uses class 2 when the radio signal is output at the first output level, and uses class 3 when the radio signal is output at the second output level.

18. The electronic apparatus according to claim 13, wherein said electronic apparatus further comprises a headset.

19. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

a battery capacity detector for detecting a remaining capacity of the battery;

an audio data reproduction device for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality; and

a control device for switching the sound quality of the audio data reproduced by the audio data reproduction device from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detector becomes lower than a predetermined value.

20. The electronic apparatus according to claim 19, further comprising:

a setting device for controlling whether or not the sound quality is switched based on the remaining capacity of the battery.

21. The electronic apparatus according to claim 20, wherein said control device includes a warning sound device for generating a warning sound when the control device detects that the remaining capacity of the battery is lower than the predetermined value in a state where the setting device is so set that the sound quality is not switched in accordance with the remaining capacity of the battery.

22. The electronic apparatus according to claim 19, wherein said audio data reproduction device uses a 5.1-channel mode when the audio data is reproduced with the first sound quality, and uses a 2-channel mode when the audio data is reproduced with the second sound quality.

23. The electronic apparatus according to claim 19, wherein said electronic apparatus further comprises a headset.

24. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

a battery capacity detector for detecting a remaining capacity of the battery;

a radio signal transmitter for transmitting a radio signal at one of a first output level and a second output level lower than the first output level;

an audio data reproduction device for reproducing

audio data with one of first sound quality and second sound quality lower than the first sound quality;

a first control device for switching the output level of the radio signal transmitter from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detector is lower than a predetermined value;

second control device for switching the sound quality of the audio data reproduced by the audio data reproduction device from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detector becomes lower than a predetermined value; and

a setting device for independently selecting at least one of the first and second control device.

25. A system control method for an electronic apparatus which can be driven by a battery and comprises a radio signal transmitter for transmitting a radio signal at one of a first output level and a second output level lower than the first output level, said system control method comprising the steps of:

detecting a remaining capacity of the battery; and

switching the output level of the radio signal transmitted by the radio signal transmitter from the first output level to the second output level, when

the remaining capacity of the battery detected in the battery capacity detection step becomes lower than a predetermined value.

26. The system control method as recited in claim 25 wherein the electronic apparatus further comprises an audio data reproduction device for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality, said system control method further comprising the steps of:

detecting a remaining capacity of the battery; and

switching the sound quality of the audio data reproduced by the audio data reproduction device from the first sound quality to the second sound quality, when the remaining capacity of the battery detected in the battery capacity detection step becomes lower than a predetermined value.

27. A system control method for an electronic apparatus which can be powered by a battery and comprises an audio data reproduction device for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality, said system control method comprising the steps of:

detecting a remaining capacity of the battery; and

switching the sound quality of the audio data reproduced by the audio data reproduction device from

the first sound quality to the second sound quality, when the remaining capacity of the battery detected in the battery capacity detection step becomes lower than a predetermined value.